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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,802	12/02/2003	Osamu Kobayashi	GENSP014	4125

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EXAMINER	
LEE, CHUN KUAN	

ART UNIT	PAPER NUMBER
2181	

DATE MAILED: 12/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/726,802	KOBAYASHI, OSAMU	
	Examiner	Art Unit	
	Chun-Kuan (Mike) Lee	2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-7,21 and 22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-7,21 and 22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

FRITZ FLEMING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100
11/27/2006

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *8/28/06; 10/4/06 & 10/25/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 3-7 and 21-22 have been considered but are moot in view of the new ground(s) of rejection. Currently, claims 1-2 and 8-20 are canceled and claims 3-7 and 21-22 are pending for examination.

2. In regarding to applicant's argument that the independent claim 21 specifically requires that the signal cable **cannot be a DVI cable** because the signal cable includes both a unidirectional main link and a bi-directional auxiliary link **neither of which has a clock signal line**, as stated on page 5, 3rd paragraph. Applicant's arguments have fully been considered, but are found not to be persuasive.

Please note that the features upon which applicant relies (i.e., signal cable cannot be a DVI cable) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Further more, the claimed limitation stated that "a signal cable comprising" a bi-directional auxiliary channel and a unidirectional main link, wherein the claimed limitation "comprising" is inclusive or open-ended and does not exclude additional, unrecited elements or method steps, such as a third clock channel / link / line.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 21 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 21 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As per claim 21, it appears that the claimed limitation "disabling the bi-directional auxiliary channel when either one or both the multimedia source device or the multimedia sink device are determined to be analog in nature" is not disclosed in the applicant's specification or drawings, as the examiner is unable to find where in applicant's specification or drawings enable or disclose said claimed limitation; therefore, it appears unclear as to how or why the bi-directional auxiliary channel would be disabled when either one or both the multimedia source device or the multimedia sink device are determined to be analog in nature. As the disclosure regarding the claimed limitation appears unclear, the examiner will assume "enabling the bi-directional

auxiliary channel when either one or both the multimedia source device or the multimedia sink device are determined to be analog in nature" for the current examination.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 3-7 and 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 22, it appears unclear as claim 22 is dependent on the canceled independent claim 1. Examiner will assume that claim 22 is dependent on the independent claim 21 for the current examination.

5. As per claims 3-7, due to direct or indirect dependency of the rejected claim 22, dependent claims 3-7 are also rejected.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kori (US Patent 6,963,968) in view of Clark (US Patent: 5,949,437).

Kori teaches a method of coupling a multimedia source device (Fig. 1, ref. 10) to a multimedia sink device (Fig. 1, ref. 20), comprising:

providing a signal cable (Fig. 1, ref. 30) comprising

a bi-directional auxiliary channel (Fig. 1, ref. 310) arranged to transfer information between the multimedia source device and the multimedia sink device (e.g. wherein information such as the control data are transferred utilizing the bi-directional auxiliary channel) (col. 2, ll. 1-22) and

a unidirectional main link (Fig. 1, ref. 301-303) arranged to transport multimedia data packets from the multimedia source device to the multimedia sink device (e.g. wherein data packets such as video or audio is transferred utilizing the unidirectional main link) (col. 1, ll. 44-51),

wherein neither the bi-directional auxiliary channel nor the unidirectional main link includes a clock signal line (Fig. 1), as clock signal is transferred over a separate link (Fig. 1, ref. 307 and col. 3, ll.53-56);

coupling the multimedia sink device (Fig. 1, ref. 20) to the multimedia source device (Fig. 1, ref. 10) by way of the signal cable (Fig. 1, ref. 30) (col. 1, l. 44 to col. 2, l. 22); and

enabling the bi-directional auxiliary channel (col. 2, ll. 1-22), wherein the bi-directional auxiliary channel must be enabled in order to control the signal transferring between the multimedia source device and the multimedia sink device.

Kori does not expressly teach the method comprising determining either one or both the multimedia source device or the multimedia sink device to be analog in nature.

Clark teaches a system and a method for connecting a video source and a video display, comprising automatic determining whether the monitor (i.e. multimedia sink device) is analog or digital (Fig. 6 and col. 5, l. 49 to col. 6 l. 14).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Clark's determination of the destination unit to be analog or digital into Kori's control unit. The resulting combination of the references further teaches the method comprising enabling the bi-directional auxiliary channel interconnecting the control units (Kori, Fig. 1, ref. 19, 29) as the monitor (i.e. multimedia sink device) is determined to be analog.

Therefore, it would have been obvious to combine Clark with Kori for the benefit of providing a multi-display system that enable the connection of analog display as it is more desirable for certain applications to utilize multiple analog displays, such as CAD, video editing and financial applications (Clark, col. 2, ll. 33-35).

7. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kori (US Patent 6,963,968) and Clark (US Patent: 5,949,437), and further in view of Kim (US Patent: 6,577,303).

Kori and Clark teach all the limitations of claim 21 as discussed above, wherein both teach the method comprising the utilization of the bi-directional auxiliary channel to transfer control data, wherein use of the control data such as the determination of the

multimedia sink device to be digital or analog would be retrieved and transferred (Kori, col. 2, ll. 1-22 and Clark, col. 5, l. 49 to col. 6 l. 14).

Kori and Clark do not expressly teaches the method comprising using multimedia source device identification data retrieved from the multimedia source device to determine the analog nature of the multimedia source device.

Kim teaches a system and a method comprising a controller (Fig. 1, ref. 8) for making an automatic determination of whether the video source is an analog video source or a digital video source (col. 4, ll. 43-48).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Kim's determination of the video source to be analog or digital video source into Kori and Clark's control unit. The resulting combination of the references further teaches the system and the method comprising utilization of the bi-directional auxiliary channel to transfer control data, wherein the use of the control data such as the determination of the multimedia source device to be digital or analog would be retrieved and transferred.

Therefore, it would have been obvious to combine Kim with Kori and Clark for the benefit of proper detection if the video source is digital or analog regardless of the type of interconnection utilized (Kim, col. 4, ll. 34-43).

8. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kori (US Patent 6,963,968), Clark (US Patent: 5,949,437) and Kim (US Patent: 6,577,303), and further in view of the "Digital Visual Interface (DVI), Revision 1.0".

9. As per claim 3, Kori, Clark and Kim teach all the limitations of claim 22 as discussed above, wherein Kim further teaches that the system and the method wherein the interconnection conforms to the Digital Visual Interface (DVI) standard (Kim, col. 4, ll. 1-12).

Kori, Clark and Kim do not expressly teach the method comprising:

receiving video data from the multimedia source device;

packetizing the video data to form a packetized video data stream formed of a number of video data packets;

passing the video data packets by way of unidirectional main link from the multimedia source device to the multimedia sink device;

depacketizing the video data packets at the multimedia sink device; and

generating a displayable image based upon the depacketized video data.

"Digital Visual Interface (DVI), Revision 1.0" teaches that the system and the method comprising that the DVI standard supports the Extended Display Identification Data (EDID) specification, wherein both DVI compliant systems and monitors must support the EDID data structure, as the data to be transferred must be packetized in accordance to the defined data structure before transferring and depacktized when the data is received ("Digital Visual Interface (DVI), Revision 1.0", Section 1.3.2 on page 8).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Digital Visual Interface (DVI), Revision 1.0's packetizing

and depacktizing of data into Kori, Clark and Kim's data transferring. The resulting combination of the references further teaches the system and the method comprising:

receiving data from the multimedia source device (e.g. graphic controller) (Fig. 2-1 in page 10);

packetizing the video data to form a packetized video data stream formed of a number of video data packets ("Digital Visual Interface (DVI), Revision 1.0", Section 1.3.2 on page 8);

passing the video data packets by way of unidirectional main link from the multimedia source device (T.M.D.S. transmitter) to the multimedia sink device (T.M.D.S. receiver) (Fig. 2-1 in page 10), as data is transferred over one of the six data channels

depacketizing the video data packets at the multimedia sink device (T.M.D.S. receiver) (Fig. 2-1 in page 10); and

generating a displayable image based upon the depacketized video data (Fig. 2-1 in page 10).

Therefore, it would have been obvious to combine "Digital Visual Interface (DVI), Revision 1.0" with Kori, Clark and Kim because Kori, Clark and Kim 's system conforms to the DVI standard, therefore the T.M.D.S. differential pair interconnection enables proper communicate of video signals over a T.M.D.S. differential pair connection having the plurality of communication channels.

10. As per claim 4, Kori, Clark, Kim and "Digital Visual Interface (DVI), Revision 1.0" teach all the limitations of claim 3 as discussed above, where "Digital Visual Interface (DVI), Revision 1.0" further teaches that the system and the method comprising:

encoding video data from the multimedia source device from an 8-bit format to a 10-bit format ("Digital Visual Interface (DVI), Revision 1.0", Fig. 2-1 and Section 2.1 on page 10 and Section 3.1.4 on page 25);

transmitting the encoded video data from the multimedia source device (T.M.D.S. transmitter) to the multimedia sink device (T.M.D.S. receiver) ("Digital Visual Interface (DVI), Revision 1.0", Fig. 2-1 and Section 2.1 on page 10);

converting (converting by decoding) the encoded video data from the 10-bit format to the 8-bit format at the multimedia sink device ("Digital Visual Interface (DVI), Revision 1.0", Fig. 3-6 and Section 3.3 on pages 30-31); and

providing the data to the multimedia sink device (display control) in the 8-bit format ("Digital Visual Interface (DVI), Revision 1.0", Fig. 2-1 and Section 2.1 on page 10).

11. As per claim 5, Kori, Clark, Kim and "Digital Visual Interface (DVI), Revision 1.0" teach all the limitations of claim 4 as discussed above, where Kori further teaches that the system and the method comprising wherein the unidirectional main link has an associated main link data rate and wherein the auxiliary link has an auxiliary link data rate (Kori, col. 2, ll. 1-22), wherein the unidirectional main link operates at the high-speed data rate and the auxiliary link operates at the low-speed data rate.

12. As per claim 6, Kori, Clark, Kim and "Digital Visual Interface (DVI), Revision 1.0" teach all the limitations of claim 5 as discussed above, where "Digital Visual Interface (DVI), Revision 1.0" further teaches that the system and the method comprising wherein the input stream (source video data) is pixel data provided at a native clock rate (CLK frequency), wherein the pixel data is transmitted at the link data rate (T.M.D.S frequency reference) that is different than the native clock rate ("Digital Visual Interface (DVI), Revision 1.0", Fig. 3-1, page 24).

13. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kori (US Patent 6,963,968), Clark (US Patent: 5,949,437), Kim (US Patent: 6,577,303) and the "Digital Visual Interface (DVI), Revision 1.0", and further in view of Hulvey (US Patent 5,940,137).

Kori, Clark, Kim and "Digital Visual Interface (DVI), Revision 1.0" teach all the limitations of claim 6 as discussed above, where "Digital Visual Interface (DVI), Revision 1.0" further teaches the system, the method and the computer program product connecting the video source having the configurable video source interface and the video display having the configurable video display interface further comprising wherein the main link data is encoded using 8B/10B encoding (converting the 8-bit format to the 10-bit format) ("Digital Visual Interface (DVI), Revision 1.0", Fig. 3-1, Section 3.1.1 and Section 3.1.4 on pages 24-25).

Kori, Clark, Kim and "Digital Visual Interface (DVI), Revision 1.0" do not teach the system and the method comprising wherein the secondary link is encoded using Manchester II encoding.

Hulvey teaches the transmission of video signal using Manchester encoding (col. 2, ll. 22-34 and col. 5, ll. 10-42).

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Hulvey's Manchester encoding into Kori, Clark, Kim and Digital Visual Interface (DVI), Revision 1.0's system and method.

Therefore, it would have been obvious to combine Hulvey with Kim, Clark, Kim and "Digital Visual Interface (DVI), Revision 1.0" for the benefit of enable more effective data transitions and more accurate clock recovery at the receiver (Hulvey, col.5, ll. 27-32).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Kuan (Mike) Lee whose telephone number is (571) 272-0671. The examiner can normally be reached on 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fritz M. Fleming can be reached on (571) 272-4145. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

C.K.L.
11/27/2006

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